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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SOOHOO, TONY GLEN

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,803

Applicant(s)

XU ET AL.

Examiner

Tony G. Soohoo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 20-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. In light of applicant's remarks to the embodiments presented as the invention, the species requirement, previously made is hereby withdrawn. Additionally, the restriction requirement between the apparatus groups I and II are rejoined. However distinction between the method and apparatus is upheld.
2. Claim 14-19 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6-9-2005.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 6, 9, 12, 13, 23, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 and 23 are narrative of an operation of a "conductor" to vibrate the fluid. The term "conductor" as presented in the parent dependent claim points out the conductor appears to receive power. Thus a conductor does not inherently cause vibration to a fluid and the claim is incomplete in the manner and mechanism that a conductor may vibrate a fluid. At present, evidence in the claim only points out that the conductor may only receive current power. Thus it appears that the conductor is structurally incomplete to permit a vibration. There is no pivot point, flexure point or

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force structure of the conductor which has been positively claimed to permit a vibration of the fluid.

Claim 9 and 26 is so vague in the recitation of the partition is coupled to the a/c power source, to vibrate the partition, one can not positively determine the meets and bounds of the coupling. Is this a direct electrical coupling? Or is the coupling indirectly in the sense that of a mere fluid coupling of the a/c power to the partition, in the manner in which the a/c power is coupled to a vibrating member and is further fluidly coupled to the fluid itself, which in effect, is further fluidly coupled to the partition, whereby the vibration transmitted caused by the a/c power is ultimately related in a coupled manner in effect which vibrates the partition due to the vibration of the fluid.

Claim 12 is narrative to the operation of the openings and does not provide a further limitation of structural scope. Therefore the claim does not further limit the structural scope of preceding claim 11.

Claim 13 is unclear in the number of flows (steams?) in the fluid and has failed to positively point out any structure to permit multiple flow streams.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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6. Claims 1-2 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Gruber 4793714.

Gruber teaches a chamber 9 in figure 4 with inlet and outlet at the top and bottom of the chamber 9 with a partition 1 with perforations which is vibrated by a "motion conductor" 7,4, 5, or alternately the walls may be vibrated as shown in figure 1.

With regards to claim 13 note that inlet and outlet is provided from top to bottom of figure 4, and is perpendicular to a flow across from left to right.

7. Claims 1-2 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Hubers 3595530.

Hubers teaches a chamber 1 with inlet 3 and outlet 5 at the top and bottom of the chamber 1 with a partition 10 with perforations 11 which is fluid vibrated by a "motion conductor" 8,9 and It is noted that the partition would also vibrate in a coupling of the vibrating fluid caused by the vibrating walls or the chamber 1.

With regards to claim 13 note that inlet and outlet is provided from top to bottom of figure 4, and is perpendicular to a flow across from left to right.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Bollemen et al 5395592.

Bollemen teaches a chamber 12, with inlet and outlets 31 31, 1st and 2nd conductors 18, 18, 18, see figure 10 and a variable power source with a signal source 28 means which may be sinusoidal, column 8, line 1, and charge to provide a capacitance potential between the plates see claims 6 or 7 part (a).

Bollemen discloses all of the recited subject matter as defined within the scope of the claims with the exception of the power source being a/c. The use of a/c current as a electric potential signal source is old and well known to provide an alternating flow in the art of electrical/fluid flow mechanics for power efficiency. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to utilize the power source 28 to structurally provide a/c thereby providing a more power efficient signal for energy transmission into the fluid.

10. Claims 2-13 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruber 4793714 in view of Bollemen et al 5395592

The Gruber reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of having 1st and 2nd conductors with an a/c power source to urge the fluid to vibrate across the chamber partition and thereby vibrate the partition, or vibrate the partition itself.

The Bollemen (et al) reference teaches as discussed above the use of conductors and a variable power source to provide a movement of the transducer to urge the fluid or to urge the transducer to process a liquid.

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Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to substitute for the "motion conductor" means 5, 4, 7 of the Gruber reference with the use of plural conductors and a/c power source as discussed in with regards to the Bollemen reference discussion above in paragraph 9, so as to provide a more efficient manner to provide a vibration to the fluid or the partition itself.

With regards to the perforation size, such openings are a direct variable to the amount of fluid processed across the partition thereby is an effective variable to the efficiency of processing, thus accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the size of openings of the perforations so as to optimize the fluid efficiency whereas, a change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

With regards to the insulation of the partition, the use of insulation is old and well known to provide temperature and corrosive resistance, thereby it is deemed that it would have been obvious to one of ordinary skill in the art to provide an insulation layer to the partition so that it will not corrode and maintain a better temperature profile to the fluid being processed.

With regards to the inlet having plural openings, the use of multiple inlet openings are old and well known to provide for parallel feed for increase throughput or the introduction of multiple materials, thus, it is deemed that it would have been obvious to one of ordinary skill in the art to provide for multiple inlet openings to Gruber so that more material may be processed into the inlet.

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

11. Claims pairs 4&21, 5&22, 6&23, 7&24, 26&9 are objected to under 37 CFR 1.75 as being a substantial duplicate of the respective identified claim pair. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1-13 and 20-26 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-8, and 12-16 of copending Application No. 10/600220. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: a chamber a partition a conductor, capacitance and vibration for fluid processing, insulation, partition perforation size.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Conclusion


14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Whitehead et al 4885783 discloses opposed conductive plates for use as force transducers.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 7-5PM, Tue-Fri (As of 9/05 Fax will be 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tony G Soohoo
Primary Examiner
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